# TROJAN

# CADMASTER™

## CBM PLUS4/C16

## USER INSTRUCTIONS

PLEASE READ CAREFULLY

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The **TROJAN CAD-MASTER PACK** comprises of a Graphics program plus a Light Pen and this instruction booklet. The pack is intended for use by micro users of all ages and any level of expertise. It can be used to produce any type of picture from a full colour art display to a black and white technical drawing. The 'Pin Point' function in the program allows pixel accuracy and the various line thicknesses can be used to dramatic effect. Please experiment with all the functions which when combined with all 16 colours, seven brightnesses and the three pen types, give more choices than mentioned in this booklet. Please adjust CONTRAST and BRIGHTNESS on the screen for best results.

### A FEW HINTS ...

Keep the tip of your light pen clean. When using the pen, always point it directly at and square to the screen, holding it as you would a pen or pencil. Do not apply undue pressure on the tip of the pen — a light touch is all that is required.

### LOADING THE SOFTWARE

The software supplied in this pack is on cassette tape but can be acquired on disk by filling in the coupon and sending it with your remittance to the address given.

1. Insert the cassette into the recorder.
2. Type in LOAD and press RETURN. Wait for READY to appear on the screen.
3. Type in RUN and press RETURN. Main Menu will now appear on the screen.

### WHEN THE PROGRAM HAS BEEN LOADED

1. Plug the Adaptor into Joystick port No.1.
2. Plug light pen plug into Adaptor socket.

## THE MAIN MENU

To select an option from the Main Menu you point the tip of the pen at the centre of the box to the RIGHT of the required option.

### LINE TYPES

The first column down the left hand side of the menu screen are all 'LINE TYPE' options. When you have selected the type of line that you require the box on the menu will change colour to red and remain red until you select another line type. The LINE TYPE which you select will be used to draw in

any of the following options which you may select:— BOX, CIRCLE, LINE, BANDING, RAYS, TRIANGLE and DRAW.

1. **THIN** — This option will produce a uniformly thin line.
2. **QUILL 1, 2 & 3** — These options produce a line which is thicker in the 'X' direction than in the 'Y' direction thus giving a 'Copperplate' effect. Quill 1, 2 & 3 are graded to give a progressively thicker line.
3. **THICK** — This option will draw a uniformly thick line.
4. **XDOT** — This option produces a dotted line in the 'X' direction and can be used to draw vertical lines in the DRAW option.
5. **YDOT** — This option produces a dotted line in the 'Y' direction and can be used to produce horizontal lines in the DRAW option.
6. **DOTLI** — This option produces a dotted line in the DRAW option or in any of the GEOMETRIC options.

# GEOMETRIC OPTIONS

The GEOMETRIC options can be drawn in any of the LINE TYPES so be sure to select the line which you require before choosing a GEOMETRIC option.

**N.B.** You may abort from any GEOMETRIC option by pressing E key which will erase that option only.

## BOX

1. Select BOX option.
2. Point pen to the point on the screen where you wish one corner of the BOX to appear.
3. Press CONTROL key. Screen will flash and a point will appear on the screen.
4. You may now 'PIN POINT' the 1st cursor by use of the CURSOR keys.
5. Point pen to the point on the screen where you wish to position the opposite corner of the BOX.
6. Press CONTROL key. Screen will flash and a BOX will appear.
7. You may now move the 2nd cursor by use of the CURSOR keys.

You may now repeat this option as often as required.
To quit this option press SPACE BAR.

## BANDING

1. Select BAND option.

2. Point pen at point on screen where you wish BANDING to start.
3. Press CONTROL key. Screen will flash and point will appear on the screen.
4. You may now 'PIN POINT' the 1st cursor by use of the CURSOR keys.

Repeat Nos. 2, 3 & 4 above as often as required to BAND lines.

## RAYS

1. Select RAYS option.
2. Point pen at point on screen where you wish centre of RAY to be positioned.
3. Press CONTROL key. Screen will flash and point will appear on the screen.
4. You may now 'PIN POINT' the 1st cursor by use of the CURSOR keys.

Repeat Nos. 2 to 4 in different positions to produce a RAY.
This option can be used as often as required.
To quit this option press the SPACE BAR.

## LINE

1. Select LINE option.
2. Point pen at point on screen where you wish one end of the LINE to appear.
3. Press CONTROL key. Screen will flash and point will appear on the screen.
4. You may now 'PIN POINT' the 1st cursor by use of the CURSOR keys.

Repeat Nos. 2, 3 & 4 for other end of line.
This option may be repeated as often as required.
To quit this option press SPACE BAR.

## TRIANGLE

1. Select TRIANGLE option.
2. Point pen at point on screen where you wish the first corner of the TRIANGLE to appear on the screen.
3. Press CONTROL key. Screen will flash and point will appear on the screen.
4. You may now 'PIN POINT' the 1st cursor by use of the CURSOR keys.

Repeat Nos. 2, 3 & 4 for each of the other two corners of the TRIANGLE.
To quit this option press SPACE BAR.

## CIRCLE

1. Select CIRCLE option.
2. Point pen at point on screen where you wish centre of CIRCLE to appear on the screen.
3. Press CONTROL key. Screen will flash and point will appear on the screen.
4. You may now 'PIN POINT' the 1st cursor by use of the CURSOR keys.

Repeat Nos. 2, 3 & 4 to position circumference of the CIRCLE.
To quit this option press SPACE BAR.

## FILL

1. Select FILL option.
2. Select FILL pattern from FILL menu which is now on the screen.
3. Use pen to place cursor within the enclosed area which you wish to FILL.
4. You may now 'PIN POINT' cursor by use of the CURSOR keys.
5. Press CONTROL key to FILL selected area.
6. Area selected will first be filled in current pen colour. Border colours will flash while micro computes area to be FILLED. The area will then revert to the pattern or colour selected.
7. To quit this option while FILLING is in operation you must depress and hold down the SPACE BAR until option aborts.

To quit this option press SPACE BAR.
**N.B.** Area to be filled must be completely enclosed by a solid line to prevent pattern or colour from 'leaking' to surrounding areas. BRUSH option is not 'leak proof'.

It is not possible to FILL over a pen colour by using the same pen as that used to draw that colour originally. This also applies to BACKGROUND colour.

## TEXT

1. Select TEXT option.
2. Select TEXT size required from the TEXT menu which now appears on the screen.
3. Use CURSOR keys to move box to required starting point.
4. Type required TEXT on keyboard.

To quit this option press RETURN key.

## FREEHAND DRAW

1. Select DRAW option.
2. Point pen at point on screen where you wish to start drawing.
3. Press and release CONTROL key. Flashing cursor will appear under pen.
4. To DRAW move the pen smoothly and slowly in the required direction and at all times keeping the pen tip within the flashing cursor.
5. To stop DRAWING hit the SPACE BAR.
6. To ERASE what you have just DRAWN press E key.
7. To quit this option press SPACE BAR.

This option requires some practice by the user for best results.

## BRUSH

1. Select BRUSH option.

Use exactly as DRAW.

## COPY

1. Select COPY option.
2. Place pen at bottom left hand corner of area to be COPIED.
3. Press CONTROL key. Screen will flash and point will appear on the screen.
4. You may now 'PIN POINT' CURSOR by use of the CURSOR keys.
5. Point pen to point at top right hand corner of area to be COPIED.
6. Press CONTROL key. Screen will flash and box will appear around area to be COPIED.
7. You may now 'PIN POINT' area to be COPIED by use of CURSOR keys.
8. Press CONTROL key and COPY menu will appear on the screen.
9. Select size of COPY required from COPY menu.
10. Place pen at bottom left hand corner of position on screen where to wish COPY to be drawn.
11. Press CONTROL key.
12. You may now move shape by use of CURSOR keys.
13. Press CONTROL key to draw COPY.

You may repeat this option as often as required.

To quit this option press SPACE BAR.

**N.B.** If you wish to change the colour of anything drawn on screen you may do so by using the COPY option with the required pen colour.

## WASH

Example of use:—

1. Draw a line using Pen 1 in GREEN.
2. Draw a line using Pen 2 in GREEN.

Draw these lines so that they intersect each other.

3. Change colour of Pen 2 to PINK.
4. Select WASH option on MAIN Menu.
5. Select WASH PEN on WASH Menu which will now appear on screen.
6. Watch as results appear on screen.

**N.B.** To WASH a PEN in BACKGROUND colour, i.e. ERASE the current pen — select ERASE PEN on WASH Menu. No matter how many colours have been used with current PEN they will be changed to current PEN colour when WASH option is used — leaving other PENS untouched.

## SAVE

1. Select SAVE option.
2. Select TAPE, DISK or RETURN from SAVE Menu.
3. A file name must be entered at this point. Up to 8 characters may be used.
4. Follow instructions on screen. For full details of disk use see the Commodore Disk Users Manual.

## LOAD

1. Select LOAD option.
2. Select option from LOAD Menu.
3. Enter file name.
4. Follow instructions on screen.

## PRINT

1. Select PRINT option

To print to Commodore 801-803-1000 printers, follow instructions on screen.

## NEW

1. Select NEW option.
2. Select YES on screen to clear current screen.

## ERASE

1. Select ERASE option.

This option ERASES last option drawn on screen.

## BORDER

1. Select BORD.

This option changes the BORDER colour to the current pen colour.

## BRIGHTNESS

Point pen at cursor to the right of the BRI option. The number on the side of BRI will change from 0 to 7. The higher the number selected the more brilliance will be given.

## PEN 1, 2, 3

EXAMPLE: —

1. Select Pen 1.
2. Select colour Blue.
3. Select Pen 2.
4. Select colour Green.
5. Select Pen 3.
6. Select colour Red.
7. Draw line on screen using DRAW option.
8. Select Pen 2.
9. Draw line on screen using DRAW option.
10. Select Pen 3.
11. Draw line on screen using DRAW option so that lines all intersect at several points.

Note that where the lines cross the colours do not merge as would have happened if only one Pen had been used.

## BACKGROUND

1. Select BACK.
2. Select colour.

The BACKGROUND colour can be used to draw shapes on top of other Pen colours or to erase.

## COLOUR OPTIONS

The two columns on the right hand side of the menu allow you to select any of the 16 colours for the various options.

# C16 PROGRAM ONLY

The program for the basic C16 has been written within the very limited memory available — 2k only in the graphics mode. In view of this shortage of memory we have opted to leave out the Freehand Draw thereby leaving memory for several other options to be included.

## LOADING THE SOFTWARE

1. Insert the cassette into the recorder.
2. Type in LOAD and press RETURN. Wait for READY to appear on the screen.
3. Type in RUN and press RETURN.
4. Main Menu will now appear on the screen.
5. Plug Adaptor into No.1 Joystick port.
6. Plug pen plug into Adaptor socket.
7. Select NEW option by pointing Pen at box on right hand side of NEW.
8. Press Y key.

## DOT

1. Select DOT option.
2. Place tip of Pen where you wish to leave a point on the screen.
3. Press SPACE BAR and screen will flash. A point will then appear on the screen.
4. You may now move this point by use of the CURSOR keys.
5. To set the point on screen hit SPACE BAR.
6. You may repeat this option as often as required.

To quit this option press ESC key.

## LINE

1. Select LINE option.
2. Place tip of Pen at point where you wish one end of line to appear on screen.
3. To 'PIN POINT' use CURSOR keys.
4. Hit SPACE BAR to set point.
5. To set cursor to other end of line repeat Nos. 2-4.

You may now repeat this option as often as required.
To quit this option press ESC key.

## BOX

1. Select BOX option.
2. Place tip of Pen at point where you require one corner of BOX to be positioned. Press SPACE BAR.
3. To 'PIN POINT' use CURSOR keys.
4. Hit SPACE BAR to set point.
5. Place tip of Pen at point where you require opposite corner of BOX to be positioned. Press SPACE BAR.
6. To 'PIN POINT' use CURSOR keys.
7. Hit SPACE BAR to set point and BOX is drawn.

To quit this option press ESC key.

## RAYS

1. Select RAY option.
2. Place tip of Pen at point where you require centre of RAY to be positioned. Press SPACE BAR.
3. To 'PIN POINT' use CURSOR keys.
4. Hit SPACE BAR to set point.

Repeat Nos. 2-4 at points around this inner point to give the RAY.
To quit this option press ESC key.

## TRIANGLE

1. Select TRIANGLE option.
2. Place tip of Pen at point where you wish one corner of TRIANGLE to be positioned. Press SPACE BAR.
3. To 'PIN POINT' use CURSOR keys.
4. Hit SPACE BAR to set point.

Repeat Nos. 2-4 at two other points where corners are required. A TRIANGLE will then be drawn.
To quit this option press ESC key.

## CIRCLE/ECLIPSE

1. Select CIRCLE option.
2. Place tip of Pen at point where you require the centre of the CIRCLE to be positioned. Press SPACE BAR.
3. To 'PIN POINT' use CURSOR keys.
4. Place tip of Pen at point where you require circumference of CIRCLE. Press SPACE BAR.

The 2nd point selected in the CIRCLE must be at 45 degrees to the 1st point or an ECLIPSE will be drawn.
To quit this option press ESC key.

## LINE BANDING

1. Select BAND option.
2. Place tip of Pen at point where BANDING is to start. Press SPACE BAR.
3. To 'PIN POINT' use CURSOR keys.
4. Repeat 2 & 3 at points where lines are required to run.

To quit this option press ESC key.

## FILL

1. Select FILL option.
2. Select FILL colour.
3. Point pen at position within an enclosed area which you wish to FILL.
4. Press SPACE BAR.
5. To 'PIN POINT' use CURSOR keys.
6. Press SPACE BAR.

To quit this option press ESC key.

## COLOUR

1. Select COLR option.
2. Select colour on menu.

## EXIT

Select EXIT to leave program.

## NEW

1. Select NEW option.
2. Press Y to clear screen.

## BRILLIANCE

Point pen at Box to the right of BRI. The number will change from 0 through 7. The higher the number selected the brighter the option will be drawn.

## BACKGROUND COLOUR

Select this option to draw options in BACKGROUND colour. Use COLOUR option to change BACKGROUND colour.

## PENS 1, 2 & 3

Use this option as shown in PLUS 4 section.

## SCREEN DUMP TO PRINTER

1. Select EXIT in MAIN Menu.

2. Type LOAD "C16 PRINTER" & RETURN.
3. When printer routine has been loaded TYPE RUN and screen will be printed.
4. To quit this option hold down SPACE BAR.
5. To return to MAIN program rewind tape and load.

**N.B.** No graphics details will be lost but the BACKGROUND and PEN colours will be changed.

## SAVING & LOADING TO & FROM TAPE & DISK

1. Select EXIT option on MAIN Menu.
2. Type MONITOR & press RETURN.
3. To SAVE a screen to Tape type: —
   S "NAME",1,1800,4001
4. To SAVE a screen to Disk type: —
   S "NAME",8,1800,4001
5. To LOAD a screen from Tape type: —
   L "NAME",1
6. To LOAD a screen from Disk type: —
   L "NAME",8

To return to Main Menu type X and press RETURN and type RUN.

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**Use this voucher if you require a copy of the TROJAN CADMASTER program on disk.**

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Please send me a disk copy of the CADMASTER program.

I enclose a cheque/postal order to the value of £3.50 which includes VAT and post & packing.

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